



Australian Government

MEM19057 Research the gemstone market and complete pre-cutting processes

Release: 1

MEM19057 Research the gemstone market and complete pre-cutting processes

Modification History

Release 1. New unit.

Application

This unit of competency defines the skills and knowledge required to plan the selection of gemstones in response to market needs, complete pre-cutting processes and document all aspects of the procurement and cutting process. It is based on deleted unit CUVOPA203A Complete pre-cutting processes for solid opals.

Where advanced processes are needed for pre-cutting gemstones, unit MEM19067 Apply advanced pre-cutting processes to complex gemstones should also be selected.

This unit applies to individuals processing gemstones in a small or large-scale production context. They use and adapt technical knowledge and skills in the pre-cutting process.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Band: A

Unit Weight: 3

Pre-requisite Unit

MEM13015 Work safely and effectively in manufacturing and engineering

MEM16006 Organise and communicate information

Competency Field

Jewellery

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Determine job requirements	1.1 Follow standard operating procedures (SOPs) 1.2 Comply with work health and safety (WHS) requirements at all times 1.3 Identify job requirements from specifications

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
2. Survey market requirements as a basis for making decisions on gemstone cutting strategy	2.1 Establish current client cut and polished gemstone-buying preferences in the retail and wholesale markets 2.2 Determine the internet buying preferences for cut and polished gemstone through online research 2.3 Document client buying preferences for cut and polished gemstone 2.4 Determine gemstone cutting strategy based on information obtained
3. Weigh gemstone and record information	3.1 Weigh gemstone before cleaning as a basis for determining yield 3.2 Record description and other relevant information for the stone
4. Clean and orient gemstone to determine yields and shape	4.1 Assess the stone and consult with appropriate persons to verify assessment 4.2 Polish a face of the gemstone to check for any inclusions 4.3 Determine best orientation for gemstone 4.4 Establish the top and bottom of the stone 4.5 Remove unwanted material and check for internal flaws using a powerful light source 4.6 Cut stone to maximise value, taking yield and colour into consideration
5. Process gemstone to pre-form state	5.1 Grind stone to the desired shape 5.2 Check stone for internal flaws and correct in accordance with job requirements

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.	
Specifications include one or more of the following:	• client requirements • job sheets • work instructions.
Determining gemstone-buying preferences includes one or more of the following:	• accessing internet auction sites • accessing internet gemstone-specific sites • making contact with gemstone dealers • making contact with gemstone cutters • phoning jewellery wholesalers and other jewellers • talking with local jewellery store owners • targeting specialist gemstone stores.
Relevant information to be recorded includes:	• date of purchase • description of stone (including weight and size) • description of area where mined • purchase price • vendor.
Equipment includes one or more of the following:	• cleaning equipment • diamond grinder • diamond saw • free-hand saw • silicon carbide grinder • slab saw • trim saw.
Unwanted material includes one or more of the following:	• cracked material • iron stone • materials with inclusions or stains • matrix • poor colour • potch • sandstone.
WHS principles and safe operating procedures include:	• complying with safe operating procedures for each machine • good housekeeping • avoiding contaminants • using personal protective equipment (PPE) where required.

Unit Mapping Information

No equivalent unit.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>

Assessment Requirements for MEM19057 Research the gemstone market and complete pre-cutting processes

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Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include:

- following standard operating procedures (SOPs) and complying with work health and safety (WHS) requirements at all times
- researching and documenting client buying preferences for cut and polished gemstone
- weighing and recording required gemstone information on at least two occasions
- safely cleaning and cutting stone on at least two occasions to maximise the yield and colour play from each stone
- safely completing cleaning, shaping and pre-forming processes on at least two occasions.

Note: Where a volume and/or frequency is not specified, demonstration must be provided at least once.

Knowledge Evidence

Evidence required to demonstrate the required knowledge for this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include knowledge of:

- sources of information on market trends and preferences for gemstone products
- procedures for weighing and recording information about stones prior to cutting and the types of information to be recorded
- methods and processes to determine the best yield from a stone
- equipment required for pre-cutting processes
- types of unwanted material on stones
- safe operating procedures for handling, storing and cutting gemstones.
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Assessment Conditions

- Assessors must:
 - have vocational competency in completing pre-cutting processes for solid gemstones at least to the level being assessed with relevant industry knowledge and experience
 - satisfy the assessor requirements in the *Standards for Registered Training Organisations 2015* or its replacement and comply with the *National Vocational Education and Training Regulator Act 2011*, its replacement or equivalent legislation covering VET regulation in a non-referring state/territory as the case requires.

- Where possible, assessment must occur in operational workplace situations. Where this is not possible or where personal safety or environmental damage are limiting factors, assessment must occur in a sufficiently rigorous simulated environment that reflects realistic operational workplace conditions that cover all aspects of workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required including relevant workplace procedures, product and manufacturing specifications.
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
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Links

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